

CALIFORNIA STATE DEPARTMENT OF PUBLIC HEALTH

WALTER M. DICKIE, M.D., Director

Weekly Bulletin



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Entered as second-class matter February 21, 1922, at the post office at Sacramento, California, under the Act of August 24, 1912. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917.

Vol. VIII, No. 20

June 22, 1929

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EDITOR

Thorough Cooking Makes Commercially Canned Products Safe

The following account of the work of the Division of Cannery Inspection of the State Department of Public Health during the past two years, by M. P. Duffy, Chief Cannery Inspector, gives a detailed impression of the methods used in the proper packing of California vegetables and fish.

"The purpose of the cannery inspection law, primarily, is to protect the public from any possible outbreaks of food poisoning which might be due to canned products that are insufficiently cooked or that might be produced under insanitary conditions. The law also serves to safeguard the interests of the packing industry, which is one of the largest and most important now operating within the state.

Since this law went into effect in 1925, there have been no outbreaks of cases of food poisoning due to the use of commercially canned California products. Cases of botulism occur occasionally among individuals who may have consumed improperly home-packed products. All such cases have been traced to insufficient heating of the products involved.

The state inspection of canneries is maintained through funds contributed by the canners, who pay into the state treasury a self-imposed tax based upon the number of cans which they purchase from the can manufacturers. The funds so accumulated are credited to the Cannery Inspection Division of the State Department of Public Health and their disbursement is under the direct supervision of the State Department of Finance, as are all other state funds.

The products which come under inspection at the present time are olives, spinach, asparagus, string beans, salad vegetables, tomatoes and tomato products, sardines and tuna. The inspection of tomatoes and tomato paste, tomato puree, catsup and fish sauce pertains to the quantity of the products used for packing and the sanitation and control of the use of the raw materials. There is no prescribed cook for tomato products, such as applies to the other products that are inspected. The regulations that have been carefully worked out and are enforced by the Division specify the temperature and the holding period for each of the separate products in accordance with the size of the cans and the density of the products within the containers.

A state inspector is in each cannery every operating day, or several times a day, according to the extent of the territory

which he may be able to cover. He must remain on duty whenever the cannery is operating, whether it be night or day, Sundays or holidays. He notes the sanitation of the plant in general, the cleanliness of the equipment. He inspects the raw products, and observes the methods of handling and packing. He notes particularly the retorting or sterilization of the sealed cans according to regulations. These products under inspection must be cooked under pressure in retorts equipped according to specifications. Each retort must have ample means of delivering and distributing steam in the retort. In the case of products cooked in glass jars under water, the retort must be equipped with a circulating pump to prevent formation of dead pockets. Retorts must have ample bleeders which are open during the entire cook to insure circulation of steam. Provisions must be made for blowing out all of the air in the retort, by means of steam, before the actual cook time begins. Each retort must have a pressure gauge, two suitable mercury thermometers and one recording thermometer. All must be in proper working order, vented if necessary to secure circulation of steam around the bulbs of the thermometers, and the pressure and temperature, as shown by the instruments, must be in agreement to show that all air is out of the retort and that the proper relation of pressure and temperature, according to altitude, is maintained. In the recording thermometer is a chart calibrated as to time and temperature. This chart gives the graphic history of the cook. It shows when the steam was turned on, when it got up to the proper cooking temperature and how long it took, how long the cook was maintained and exactly at what temperature during every minute of the cook, and when the cook ended and the temperature went down. Each chart has been stamped, numbered and initialed by the inspector and a record kept of it. After the cooking day is ended the inspector examines and checks over the chart. The retorting process is done by a man in the employ of the cannery, but who has been examined and, if competent, licensed by the Chief Inspector. This retort operator must keep on another record, and in duplicate, a complete record of the cook. These sheets are also stamped, numbered and initialed by the inspector. This sheet shows the number of the recording thermometer chart, the number of the retort in which the cook was made, the number and size of the cans, the product contained therein, and clock time at which the steam was turned on, the time at which the cook got under way with all of the air out and the thermometers and pressure gauge in agreement,

the readings of the mercury thermometers, recording thermometer and pressure gauge at the beginning of the cook, and the readings at the end of the cook, the time the cook ended and the steam was turned off, and the length of the cook in minutes. The inspector afterward checks this retort record against the recording record, examines the batch of cans cooked, and if all is well, signs and releases the products. Each retort is considered a batch and the number of that batch is stamped or embossed on each can. Also, each cannery has a registered mark or code embossed in the can. Consequently the history of any particular can from any cannery can be obtained. The inspector further makes a daily report of his findings and what went on in the cannery that day. This he does from a note book carried with him in which he keeps a record of the day's activities in the various canneries.

This is in general the procedure for safeguarding canned goods under inspection. In addition to this general outline there are numerous other requirements, safeguards and precautions which are enforced according as conditions warrant."

Following is a table which gives the total number of cases of canned goods which were inspected by the Division of Cannery Inspection during the biennial period:

	1926-1927	1927-1928
Asparagus	2,209,081	2,344,539
String beans	29,520	113,827
Pumpkin	65,629	73,338
Vegetable salad	19,383	15,447
Spinach	2,040,479	2,968,029
Olives	458,604	722,474
Cauliflower		423
Celery		2,716
Fish	3,882,861	3,978,616
Totals	8,705,557	10,219,409

Absence of occupation is not rest.

A mind quite vacant is a mind distress'd.

—Cowper.

More boy babies than girl babies are born every year, and more boy babies die. This matter of common knowledge is borne out by the records of births and infant deaths for the birth-registration area of the United States. For every 100 deaths among girls under 1 year of age in the United States there have been at least 130 deaths among boys of the same age. A slightly higher sex ratio is reported for infant deaths in England and Wales, where the steady decline in the infant death rate since 1900 has been accompanied by an even greater decline for girls than for boys. It has been suggested that the regional and seasonal differences which have been found in the sex mortality ratios are dependent on the differences in the amount of sunlight reaching the infant, the greater need of the male infant for sunlight being indicated by his greater tendency to certain diseases (such as rickets and tetany) likely to develop when the amount of sunlight is insufficient. If this suggestion is borne out by further investigation, artificial sunlight or a substitute is strongly indicated as a method of reducing the present mortality sex ratio.—Children's Bureau, U. S. Dept. of Labor.

FOURTH OF JULY WOUNDS OFTEN PRODUCTIVE OF TETANUS

Many years ago, large numbers of children in the United States died of tetanus following Fourth of July wounds caused by toy pistols and blank cartridges. In 1903, there were at least three hundred and twenty-five such deaths in children of the United States, most of these cases and deaths following injuries received through the use of blank cartridges. The source of the tetanus spore in such cases has not been fully established, but it is believed that the spore is on the skin of the victim and is injected into the wound made by the blank cartridge. The character of such a wound makes it particularly dangerous in the development of tetanus. The American Medical Association many years ago started a campaign for the observation of a safer and saner Fourth of July. Through the agitation and the publicity of statistics practically every city in the United States enacted some kind of an ordinance regulating the sale of fireworks and explosives. These restrictive measures have been productive of most excellent results in the reduction of deaths and injuries due to these causes.

There is an indication, however, that there is a growing tendency for some cities to rescind the protective measures that have been in force for so many years. The American Museum of Safety, in a survey of six hundred cities in forty-three states, in 1927, found that one hundred and ninety-five deaths and three thousand one hundred and seventy-nine injuries occurred from the Fourth of July celebration of that year. Among the killed were thirty-one children under six years of age and one hundred and twenty-two between the ages of six and twenty; forty-eight of the victims were burned, their clothing having been ignited by fireworks which were supposed to be of the harmless type. Toy pistols and blank cartridges caused forty-six deaths, firecrackers, twenty-two deaths, and the eating of fireworks by small children caused sixteen deaths.

Health officers are somewhat concerned over the tendency to nullify local legislation pertaining to the sale of fireworks, particularly toy pistols and blank cartridges. Health officers take this stand because of the great dangers associated with the development of tetanus and lockjaw through the use of these disastrous toys. In the interest of the public health, it is important that the lives of California children be protected against tetanus which may be caused by wounds from toy pistols, caps and blank cartridges.

Rigorous law is often rigorous injustice.

—Terence.

RESPIRATORY ILLNESS AND TYPE OF VENTILATION IN SCHOOLS

A report of considerable interest relating to respiratory illnesses and type of ventilation in schools has recently been made public by Surgeon General H. S. Cumming of the Public Health Service. In this study a comparison is drawn between two groups of schools, one group ventilated by mechanical means and the other by the natural open window method. The groups are very nearly equal in size, the mechanically ventilated group having 1573 pupils and the window ventilated group 1546 pupils. The two groups are highly comparable in composition, the first having 17.5 per cent of pupils of American parentage and the second 15.0 per cent of such pupils; the average age of pupils of the first group is 7.9 years, and the second 8.6 years. The sex distribution of pupils is practically the same in both groups of schools. The weighted mean temperature of the rooms of the schools throughout the course of the study was found to be very nearly the same for both groups, being 67.8° F. for the mechanically ventilated group and 68.1° for the naturally ventilated group. The total respiratory illness absenteeism findings of the study show the rate for such absences in the mechanically ventilated group to be 3.0 per cent of pupil sessions and for the naturally ventilated group to be 1.8. If, instead of total respiratory illness, we use independently collected data concerning only those illnesses causing an absence of three days or more the study disclosed a respiratory illness rate of 3.3 per cent of pupil sessions in the mechanically ventilated group of such schools, as compared with 1.2 per cent for the naturally ventilated group. It is important to note that the respiratory illness absences of a duration of three days or more in the mechanically ventilated group of schools was in excess of that found in the naturally ventilated group in all cases, and that the same was true for respiratory illness absenteeism for a duration of one-half day and more, with but one exception. In this case the mechanically ventilated school had a rate of 4.4 while the window ventilated had a rate of 4.7 per cent. And, lastly, it might well be pointed out that the actual numbers of absences of a duration of three days or more amounted to 359 in the mechanically ventilated group as compared with 133 in the window ventilated group. From these data it appears reasonable to conclude that the atmospheric conditions produced by the systems of mechanical ventilation in use at the time of the study were associated with higher respiratory illness absence rates. These studies, however, should certainly not

be interpreted as condemning all mechanical systems of air conditioning.

It is not possible to state with which element or elements of the atmospheric conditions lies the responsibility for these observed differences in absenteeism. Our investigations concerning temperature conditions indicate the weighted mean temperature of the two groups of schools to be very nearly alike. More detailed investigations of temperature may be of value. Certainly in the problem of school ventilation the elements of humidity and air motion require further detailed study, which unfortunately, this investigation could not supply.

The present study confirms the findings of the New York State Commission on Ventilation of 1916-17, except in so far as these studies bear on the importance of very slight degrees of overheating. Likewise, the present studies confirm those of the New York Commission on Ventilation made in Syracuse, N. Y., in 1927. It may be well to recall a statement from the report of the New York State Commission on Ventilation:

"Because window ventilation is practicable for the ordinary schoolroom it does not follow, of course, that the assembly room, the theater, and other places seating, in certain cases, many people can also be dealt with in this manner. Each type of inclosure must be handled as a distinct problem. Natural ventilation has its limitations. That the schoolroom is not beyond these limitations is indicated by this study."

Where education has been entirely neglected or improperly managed, we see the worst passions ruling with uncontrolled and incessant sway.

Good sense degenerates into craft, and anger rankles into malignity. Restraint, which is thought most salutary, comes too late, and the most judicious admonitions are urged in vain.

—S. Parr.

MORBIDITY*

Diphtheria.

39 cases of diphtheria have been reported, as follows: Alameda County 1, Berkeley 5, Oakland 1, Los Angeles County 3, Glendale 3, Los Angeles 8, Merced County 3, Orange County 2, Santa Ana 1, San Diego 5, San Francisco 5, San Jose 1, Watsonville 1.

Scarlet Fever.

326 cases of scarlet fever have been reported, as follows: Alameda County 4, Berkeley 2, Oakland 25, Piedmont 3, Butte County 2, Chico 2, Fresno County 10, Fresno 6, Eureka 3, Kern County 4, Bakersfield 1, Taft 2, Lemoore 1, Susanville 3, Los Angeles County 25, Alhambra 3, Beverly Hills 1, El Monte 2, El Segundo 1, Glendale 5, Long Beach 6, Los Angeles 50,

*From reports received on June 17th and 18th, for week ending June 15th.

Pasadena 2, Santa Monica 4, Lynwood 1, South Gate 3, Bell 1, Madera County 1, Sausalito 1, Yosemite 1, Merced County 4, Merced 1, Pacific Grove 2, Orange County 2, Fullerton 1, Sacramento County 7, Sacramento 17, Hollister 1, Chino 2, Redlands 1, San Diego County 3, National City 3, San Diego 17, San Francisco 33, San Joaquin County 14, Stockton 15, San Mateo 1, Santa Clara County 3, Palo Alto 1, San Jose 4, Santa Clara 2, Sunnyvale 1, Watsonville 1, Dunsmuir 2, Sonoma County 6, Tulare County 3, Porterville 1, Sonora 1, Marysville 2.

Measles.

111 cases of measles have been reported, as follows: Alameda County 1, Alameda 1, Berkeley 1, Oakland 7, Butte County 1, Fresno 9, Eureka 1, Susanville 2, Los Angeles County 1, Alhambra 1, Burbank 1, Glendale 9, Huntington Park 4, Long Beach 1, Los Angeles 20, Pasadena 1, South Gate 1, Orange County 2, Orange 1, Sacramento 10, Ontario 1, San Diego County 2, San Diego 9, San Francisco 20, San Mateo 1, Palo Alto 1, Dorris 1, Dinuba 1.

Smallpox.

45 cases of smallpox have been reported, as follows: Alameda County 2, Berkeley 1, Piedmont 1, Butte County 5, Humboldt County 4, Kern County 1, Los Angeles County 7, Long Beach 6, Los Angeles 2, Signal Hill 1, Riverside County 3, Sacramento 2, San Jose 2, Watsonville 3, Dunsmuir 5.

Typhoid Fever.

7 cases of typhoid fever have been reported, as follows: Fresno 1, Los Angeles 4, Sacramento County 1, San Francisco 1.

Whooping Cough.

190 cases of whooping cough have been reported, as follows: Alameda 1, Berkeley 6, Oakland 4, San Leandro 3, Fresno County 1, Fresno 1, Kings County 1, Los Angeles County 29, Alhambra 3, Compton 1, Glendale 3, Huntington Park 6, Long Beach 7, Los Angeles 26, Pasadena 5, San Fernando 3, San Gabriel 2, San Marino 3, Whittier 4, Ross 4, Orange County 2, Anaheim 1, Brea 6, Fullerton 5, Santa Ana 4, La Habra 4, Sacramento 1, San Diego County 5, National City 1, San Diego 15, San Francisco 12, Stockton 5, Menlo Park 2, Palo Alto 8, San Jose 3, Benicia 2, Yolo County 1.

Meningitis (Epidemic).

9 cases of epidemic meningitis have been reported, as follows: Oakland 1, Los Angeles 1, Whittier 1, Placer County 1, Riverside 1, Sacramento 1, San Joaquin County 1, Santa Clara County 1, Watsonville 1.

Poliomyelitis.

4 cases of poliomyelitis have been reported, as follows: Fresno 1, Los Angeles County 1, Pasadena 1, San Diego County 1.

Food Poisoning.

Maywood reported 3 cases of food poisoning.

Undulant Fever.

Two cases of undulant fever have been reported, as follows: Imperial County 1, California 1.**

** Cases charged to "California" represent patients ill before entering the state or those who contracted their illness traveling about the state throughout the incubation period of the disease. These cases are not chargeable to any one locality.

COMMUNICABLE DISEASE REPORTS

Disease	1929				1928			
	Week ending			Reports for week ending June 15 received by June 18	Week ending			Reports for week ending June 16 received by June 19
	May 25	June 1	June 8		May 26	June 2	June 9	
Actinomycosis.....	0	0	0	0	0	1	0	0
Botulism.....	0	0	0	0	0	1	0	0
Chickenpox.....	497	435	496	308	592	507	505	340
Coccidioidal Granuloma.....	2	2	0	0	0	0	0	0
Diphtheria.....	55	59	54	39	87	79	84	79
Dysentery (Amoebic).....	3	1	0	0	0	0	2	0
Dysentery (Bacillary).....	0	0	1	5	2	3	1	0
Encephalitis (Epidemic).....	2	0	1	0	0	0	3	1
Erysipelas.....	21	23	23	10	9	14	14	12
Food poisoning.....	0	6	0	3	4	0	11	4
German Measles.....	31	33	24	14	261	251	206	117
Glanders.....	0	0	0	0	0	0	0	0
Gonococcus Infection.....	95	56	91	105	84	86	141	96
Hookworm.....	0	0	0	1	0	0	0	0
Influenza.....	34	16	25	18	55	30	41	22
Jaundice (Epidemic).....	0	0	0	0	0	1	0	0
Leprosy.....	0	0	0	0	1	0	0	1
Malaria.....	1	1	2	2	0	0	1	1
Measles.....	148	142	129	111	97	92	75	49
Meningitis (Epidemic).....	23	20	12	9	3	3	3	3
Mumps.....	638	438	489	378	329	345	255	217
Ophthalmia Neonatorum.....	1	1	0	1	0	1	1	1
Paratyphoid Fever.....	0	0	0	0	1	0	1	1
Pellagra.....	2	0	1	1	1	2	4	0
Pneumonia (Lobar).....	49	43	55	29	42	34	37	42
Poliomyelitis.....	3	3	3	4	2	7	8	4
Rabies (Human).....	0	0	0	0	0	0	0	1
Rabies (Animal).....	17	17	14	14	18	15	7	23
Rocky Mt. Spotted Fever.....	0	0	3	0	0	2	0	0
Scarlet Fever.....	458	338	458	326	167	160	134	128
Smallpox.....	67	37	30	45	13	36	11	18
Syphilis.....	178	91	118	227	111	90	196	169
Tetanus.....	2	1	2	0	2	3	2	2
Trachoma.....	4	0	0	0	1	2	2	2
Tularemia.....	1	0	0	0	0	0	1	0
Tuberculosis.....	257	170	239	154	196	165	261	185
Typhoid Fever.....	7	7	9	7	16	15	14	12
Undulant Fever.....	0	2	1	2	0	0	0	0
Whooping Cough.....	341	255	252	190	286	236	341	225
Totals.....	2,937	2,197	2,529	2,003	2,380	2,181	2,362	1,755

Marked decline in epidemic meningitis.

↑ ↑ ↑

The periodic rise in measles has appeared.

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Diphtheria continues at low level.

↑ ↑ ↑

Undulant fever continues to be reported.

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